AF

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,121	01/23/2002	Stephen T. Wellinghoff	SWRI-2385(Z)-04	2627

23770 7590 11/29/2005

PAULA D. MORRIS
THE MORRIS LAW FIRM, P.C.
10260 WESTHEIMER, SUITE 360
HOUSTON, TX 77042-3110

EXAMINER	
OH, TAYLOR V	

ART UNIT	PAPER NUMBER
1625	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/056,121	WELLINGHOFF ET AL.	
	Examiner	Art Unit	
	Taylor Victor Oh	1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *174-228* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *174-191,194-223 and 226-228* is/are rejected.

7)☒ Claim(s) *192-193, 224 and 225* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/15/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Final Rejection

The Status of Claims

Claims 174-228 are pending.

Claims 174-191, 194-223, and 226-228 have been rejected.

Claims 192-193, 224, and 225 have been objected.

Claims 1-173 have been canceled.

Claim Objections

The objection of Claims 147-150, and 153-154 has been withdrawn due to the cancellation of the claims in the amendment. However, there are some issues in the new claims 174, 199, 208, and their dependent claims .

In claim 174, the phrase " Z is space group " is recited. There is no article in front of the phrase " space group "in the sentence. Therefore, an appropriate correction is required.

In claim 199. the phrases " X is polymerizable group comprising polymerizable unsaturated carbon-carbon bond " and "Y comprise amino

group" are recited. There are no articles in front of the phrases " polymerizable group " and "amino group" in the sentence.

In claim 208, the phrase " X comprises cinnamoyloxy group" is recited. There is no article in front of the phrase " cinnamoyloxy group "in the sentence. Therefore, an appropriate correction is required.

In claims 184, 185, the phrase " one or more of X, Y, or Z further consists " is recited. The use of the term "more " needs grammatically the plural form of the verb "consist" instead of the singular verb consists. Therefore, an appropriate correction is required.

In claims 194-198, 206-209, and 226-228, the phrase " one or more member selected from the group" is recited. The term "more member " needs grammatically the plural form " more members" instead of its singular form. Therefore, an appropriate correction is required.

In claim 176, a new limitation " when both X and Y are amino group , one or more of X or Y further consists essentially of spacer group selected from the group consisting of

$H\text{-}(CH_2)_n\text{-}O\text{-}$ groups, $Cl(CH_2)_n\text{-}O\text{-}$ groups, $Br(CH_2)_n\text{-}O\text{-}$ groups, $I(CH_2)_n\text{-}O\text{-}$, " has been added to the claim. This limitation has not shown in the original specification or the original claim. A close inspection of the original claims and specification do not provide antecedent basis for the proposed changes. New matter

can not be introduced into specification at any time during the prosecution, unless there is a supporting description that would support the proposed changes. Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 176 and its dependent claims are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 176, a new limitation " when both X and Y are amino group , one or more of X or Y further consists essentially of spacer group selected from the group consisting of

$H-(CH_2)_n-O-$ groups, $Cl(CH_2)_n-O-$ groups, $Br(CH_2)_n-O-$ groups, $I(CH_2)_n-O-$, " has been added to the claim. This limitation has not shown in the original specification or the original claim. A close inspection of the original claims and

specification do not provide antecedent basis for the proposed changes. New matter can not be introduced into specification at any time during the prosecution, unless there is a supporting description that would support the proposed changes. Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> **The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

The rejection of Claims 112-173 under 35 U.S.C. 112, second paragraph, has been withdrawn due to the cancellation of the claims in the amendment. However, there are some issues in the new claims 174, 186, 199, 208-209, and their dependent claims .

Claims 174, 186, 199, 208-209 and their dependent claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 174, the phrases " X and Y are spacer groups optionally further consisting essentially of terminal functionalities, polymerizable groups, or combinations thereof " and " Z is space group optionally further consisting essentially of terminal functionalities, polymerizable groups or combinations thereof" are recited.

These expressions are vague and indefinite because the specification offers the definition of the spacer groups as part of the generic terminal functionalities in the followings:

groups being selected from the group consisting of $H-(CH_2)_n-O-$ groups, $Cl(CH_2)_n-O-$ groups, $Br(CH_2)_n-O-$ groups, $I(CH_2)_n-O-$, wherein n is from about 2 to about 12 wherein the CH_2 groups independently can be substituted by oxygen, sulfur, or an ester group; provided that at least 2 carbon atoms separate said oxygen or said ester group;

therefore, X , Y, and Z spacer groups can not contain the broad scope of terminal functionalities, and polymerizable groups. Therefore, an appropriate correction is required.

In claim 174, the term " general " is recited. However, the specification does not describe how general the formula can be for the formula. Arvin Industries v. Berns Air King corp., 525 F 2d 182, 188 U.SP.Q. 49 (CCA 7-1975). Therefore, appropriate correction is required.

In claims 174, 186, 199, and 209 , the phrase "R^1 and R^3 are selected groups less bulky than R^2 " are recited. This expression is vague and indefinite because it has used the functional language , such as " less bulky " ; this expression does not elaborate exactly how each of the R^1 and R^3 groups are different from one another in comparison with R^2 groups; and this is because the definitive chemically structure of each of the R^1 and R^3 groups is unspecified.

Therefore, an appropriate correction is required.

In claims 199 and 208, the phrases " X is polymerizable group comprising polymerizable unsaturated carbon-carbon bond " , "Y comprise amino group" , and " X comprises cinnamoyloxy group" are recited. They are vague and indefinite because the term " comprise(s)/ing is an open language without a limit in the claim; the compound claims are specific within the boundary; these expressions do not exclude the presence of components in the compounds than the ones recited. Exparte Muench , 79 USPQ 92 (PTO BD. APP. 1948) and Swain V. Crittendon , 332 F 2d 820 , 141 USPQ 811 (C.C.P.A 1964). Therefore, an appropriate correction is required.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

The rejection of Claims 124-173 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13-62 of

copending Application No. 10/811,090 has been withdrawn due to the abandonment of the copending Application No. 10/811,090 .

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> **A person shall be entitled to a patent unless –**
>
> **(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.**
>
> **(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

1. The rejection of Claims 112 ,124, and 139-140 under 35 U.S.C. 102(b) as being anticipated clearly by Wang et al (Journal of Polymer Science , 4/1999, 37(7), p. 891-899) has been withdrawn due to the cancellation of claims in the amendment.

2. The rejection of Claims 174, and 175 under 35 U.S.C. 102(b) as being anticipated clearly by Wan et al (Gaodeng Xuexiao Huaxue Xuebao ,1998, 19(9), p. 1507-1512) has been maintained with the reasons of record on 6/7/05.

3. The rejection of Claims 112 ,124 ,and 139-140 under 35 U.S.C. 102(a) as being anticipated clearly by Kiyoshi et al (JP-08-157597) has been withdrawn due to the cancellation of claims in the amendment.

4. The rejection of Claims 174, and 175 under 35 U.S.C. 102(b) as being anticipated clearly by Kim et al (European Polym. J. vol. 31, no. 6, p. 505-512, 1995) has been maintained with the reasons of record on 6/7/05.

5. The rejection of Claims 174, and 175 under 35 U.S.C. 102(b) as being anticipated clearly by Aharoni (Macromolecules (1987), 20 (40, p. 877-884) has been maintained with the reasons of record on 6/7/05.

6. The rejection of Claims 174, 209, 213, 217, and 219 under 35 U.S.C. 102(b) as being anticipated clearly by Meyer et al (GB 2330139) has been maintained with the reasons of record on 6/7/05.

7. The rejection of Claims 174, 209, 213, 217, and 219 under 35 U.S.C. 102(b) as being anticipated clearly by Wellinghoff (WO 98/13008) has been maintained with the reasons of record on 6/7/05.

8. The rejection of Claims 174, 209, 213, 217, and 219 under 35 U.S.C. 102(b) as being anticipated clearly by Wellinghoff et al (J. Den. Res. 1997, p. 279 (abstract 2127), vol. 76) has been maintained with the reasons of record on 6/7/05.

9. The rejection of Claims 174, 209, 213, 217, and 219 under 35 U.S.C. 102(a) as being anticipated clearly by Norling et al (American association for Dental Research meeting , April 2000) has been maintained with the reasons of record on 6/7/05.

10. The rejection of Claims 174, 209, 213, 217, and 219 under 35 U.S.C. 102(a) as being anticipated clearly by Rawls et al (ACS polymer preprints, 9/1997, p. 167-168, vol. 38(2)) has been maintained with the reasons of record on 6/7/05.

11. The rejection of Claim 174 under 35 U.S.C. 102(a) as being anticipated clearly by Bigg et al (Annual Tech. Conference –society of plastics engineers (2000), 58th (vol. 1 0, p. 1228-1231) has been maintained with the reasons of record on 6/7/05.

Applicants' Argument

Applicants argue the following issues:

a. With respect to claims 176, 199, and 209, the examiner has not pointed to a teaching of a compound having the claimed R^2 in Wang , Wan, and Kiyoshi et al ;

b. With respect to claims 176,186, and 199, the examiner has not pointed to a teaching of a compound having the claimed spacer group , R^2 , X being a polymerizable unsaturated carbon-carbon bond in the Kim prior art;

c. With respect to claims 176,186, 199, and 209, the examiner has not pointed to a teaching of a compound having the claimed spacer group , R^2 , X being a polymerizable unsaturated carbon-carbon bond in Aharoni and Meyer;

d. With respect to claims 176, 186 and 199, the examiner has not pointed to a teaching of a compound having the claimed spacer group , R^2 , X being a polymerizable unsaturated carbon-carbon bond in Wellinghoff, Norling, and Rawls;

d. With respect to claims 176, and 199, the examiner has not pointed to a teaching of a compound having the claimed R^2 in Bigg.

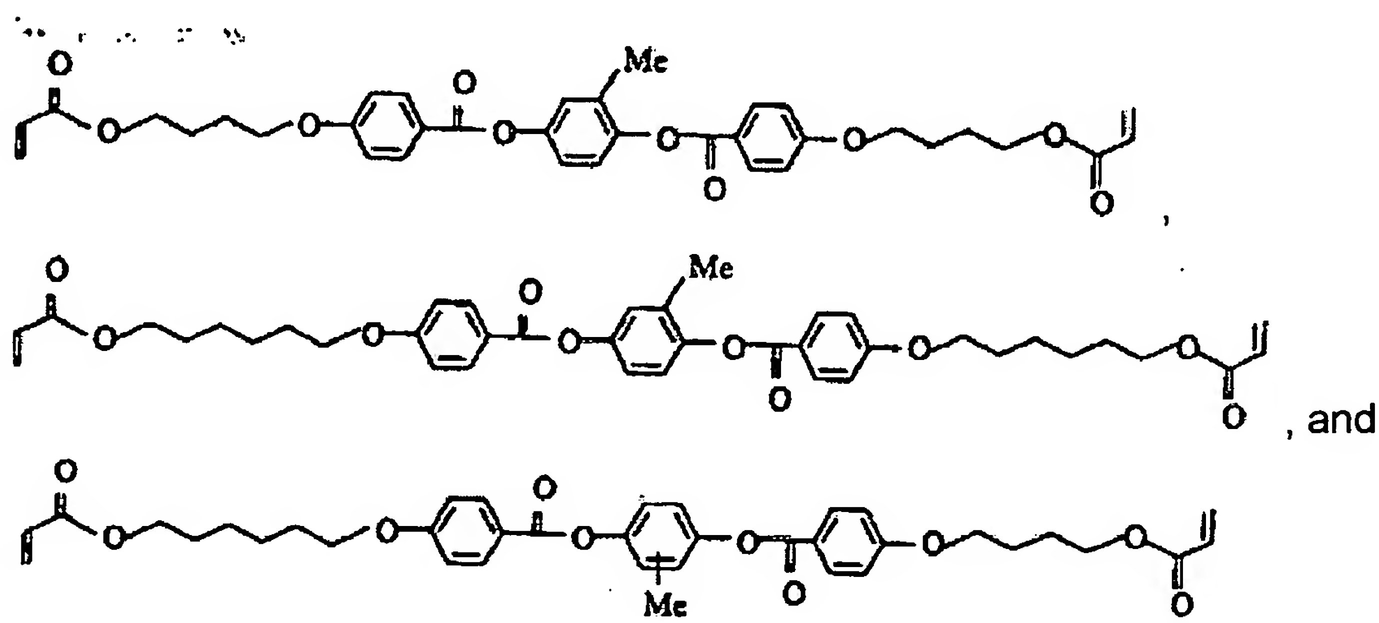
Applicants' arguments have been noted, but the arguments are not persuasive.

First, regarding the first argument, the Examiner has noted applicant's argument.

However, regarding the Wan reference, it expressly discloses the 1, 4-benzenediol, 2-ethenyl-, bis-(4-aminobenzoate) compound (see abstract page). This does still read on the claims 174-175 in spite of not being applicable to claims 176, 199, and 209. Therefore, the prior art is relevant to the claimed invention.

Second, regarding the second argument, the Examiner has noted applicant's argument. However, regarding the Kim reference, it expressly discloses the 1, 4-bis (4-amino benzoyloxy)-2-phenylbenzene compound (page 505, line 10). This does still read on the claims 174-175 in spite of not being applicable to claims 176, 186, and 209. Therefore, the prior art is relevant to the claimed invention.

Third, regarding the third argument, the Examiner has noted applicant's argument. However, regarding the Meyer reference, Meyer et al expressly discloses the following compound below (see page 14 ,lines 10-25):

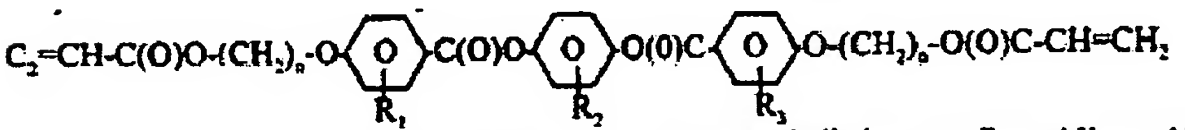


They do still read on the claims 174, 209, 213, 217, and 219 in spite of not being

applicable to claims 176,186, and 199. Therefore, the prior art is relevant to the claimed invention.

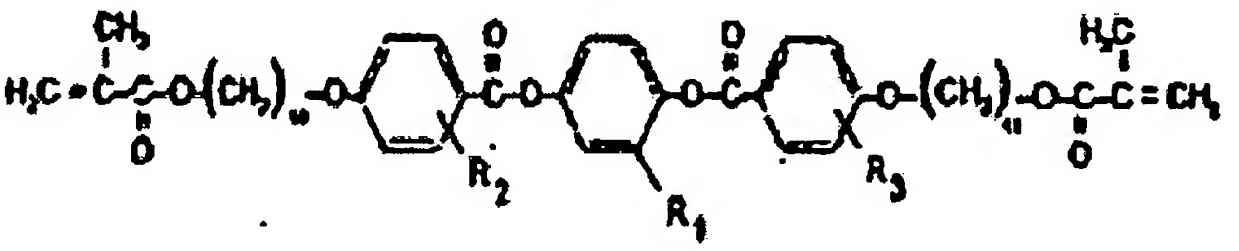
Fourth, regarding the fourth argument, the Examiner has noted applicant's argument. However, regarding the Wellinghoff, Norling, and Rawls references, they are shown below:

Wellinghoff expressly discloses the following compound below (see page 3 ,lines 25-29):



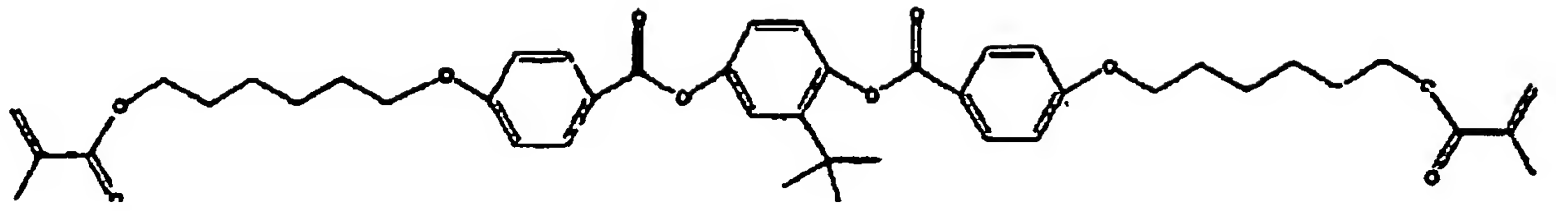
In this formula $_n$ is a C_6 to C_{12} substituted or unsubstituted alkyl group, R_1 and R_3 are H or a methyl group and R_2 is a bulky group (a group of providing steric hindrance), such as a tertiary butyl group.

Another Wellinghoff et al expressly discloses the following compound below (see abstract 2127)):

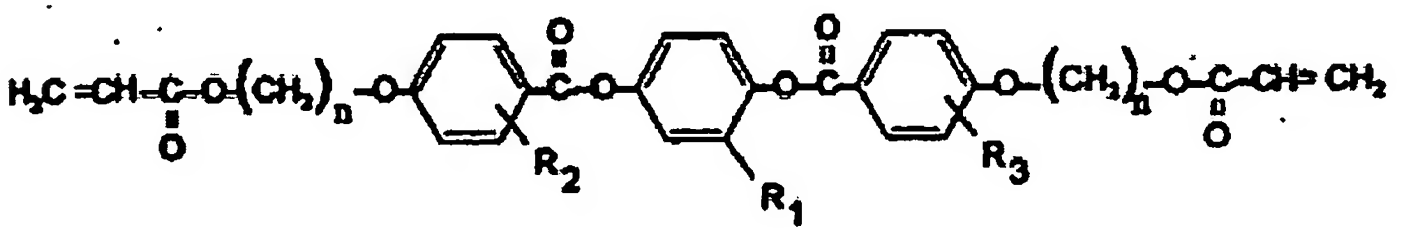


$R_{2,3}$ = H. R_1 = CH_3, CH_3O, or t-butyl. n = no. of CH_2 groups (10 in this example)

Norling et al expressly discloses the following compound below (see abstract):



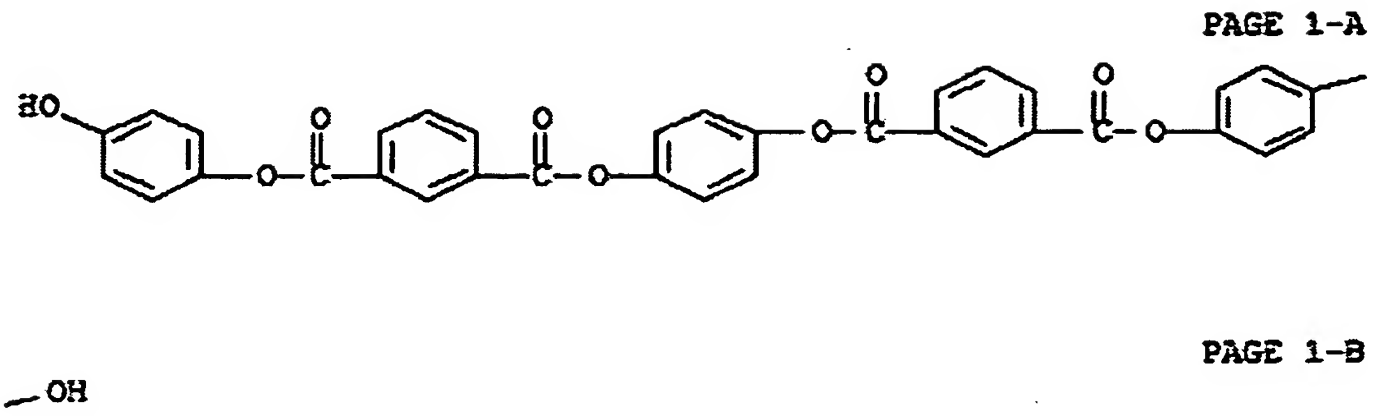
Rawls et al discloses the following compound below (see abstract):



when n=6, R_1 =CH_3O or t-butyl.

From the above, each of them does still read on the claims 174, 209, 213, 217, and 219 in spite of not being applicable to claims 176,186, and 199. Therefore, the prior art are relevant to the claimed invention.

Fifth, regarding the fifth argument, the Examiner has noted applicant's argument. However, regarding the Bigg , Bigg et al expressly discloses the following compound below (see abstract):



This does still read on the claim 174 in spite of not being applicable to claims 176, and 199. Therefore, the prior art is relevant to the claimed invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taylor Victor Oh whose telephone number is 571-272-0689. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/26/05

Cecilia J. Tsang
Supervisory Patent Examiner
Technology Center 1600